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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,481	10/17/2001	Ming C. Hao	10014772-1	7017

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER	
WANG, JIN CHENG	

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/982,481	HAO ET AL.	
	Examiner	Art Unit	
	Jin-Cheng Wang	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31 and 33-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31 and 33-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's submission filed on 12/22/2005 has been entered. Claims 1-30, and 32 have been canceled. Claims 31, 36 and 40 have been amended. Claims 31 and 33-43 are pending in the application.

Response to Arguments

Applicant's arguments with respect to claims 31 and 33-43 have been considered but are not moot in view of the new ground of rejection based on Tabei et al. U.S. Pat. No. 5,929,863 (hereinafter.Tabei) in view of Davies et al. U.S. Patent No. 6,400,366 (hereinafter Davies) and and Mead et al. U.S. Patent No. 5,801,688 (hereinafter Mead).

The Examiner maintains the rejection to the claims 31 and 33-39 under ***35 USC § 112***. As set forth in the present Office Action, the base claim 31 recites the two "applying a selectable color to all of the pixels in all of the columns according to an attribute of said records." Applying a color to all of the pixels in all of the columns would result in all pixels being of the same color. Whatever "a selectable color" may be, it is applied to **all of the pixels in all of the columns** – as opposed to, for example, a unique color applied to each pixel – resulting in, again, all the pixels being of the same "selectable" color. Moreover, the base claim 31 also recites, "wherein at least some pixels have a different color applied than other pixels", meaning a different color is applied to at least one pixel than other pixels, contradicting with the recitation of "applying a selectable color to all of the pixels in all of the columns" wherein all of the pixels in all of the columns have

the unique selectable color. Therefore, the metes and bounds of the coverage of at least base claim 31 (or 36) cannot be ascertained.

As set forth in the present Office Actions, the claims 31 and 33-43 are rejected based on the cited prior art, Tabei et al. U.S. Pat. No. 5,929,863 (hereinafter Tabei) in view of Davies et al. U.S. Patent No. 6,400,366 (hereinafter Davies) and Mead et al. U.S. Patent No. 5,801,688 (hereinafter Mead).

Based on the Tabei referenfce, the data points plotted in Tabei's graph are data dependent, i.e., the distribution of the data points depends on the data items retrieved from the database as well as the retrieval conditions. Based on the data items retrieved from the database, Tabei's graph is capable of drawing every data point in the graph and that every data point corresponds to a record, especially in situation when Tabei plots a large set of data from the database representing a wide range of data values wherein every data point or every pixel is assigned a record. From page 9, lines 13-16 of the applicant's specification, a record is represented by a unique pixel in a display or a record is represented by a data point and each data point comprises a plurality of pixels. In Tabei, a record is represented by a unique pixel in a display and every pixel in the graph is plotted for records in a large set of records. Although Figures 3-5, and 11-12 of Tabei only show a limited number of data points in each graph, for a limited number of records, Tabei is capable of drawing every data point or every pixel in the graph for a large number of records representing a wide range of data items selected from the database. Therefore, Tabei teaches assigning records to every pixel in the columns of the distribution graph. Finally, it is noted that the "pixel bar chart" is interpreted as the "distribution graph" of Tabei (See, for example, column 6, lines 45-55 of Tabei wherein Tabei teaches a pixel

bar chart). Tabei teaches the claim limitation of "applying a selectable color to all of the pixels in all of the columns according to an attribute of said records". This is because Tabei teaches in Figures 11-12 changing the plot color of the record data when a user input a narrowing retrieving condition (See column 10 for details). The plot color can be yellow or blue. The attribute of the records are thus designated by the narrowing conditions and the plot color such as yellow or blue is being applied to all of the pixels in all of the columns that correspond to the data records retrieved.

Tabei teaches in Fig. 4 determining a width in the number of pixels of each of the columns, the width of some columns being different than the width of other columns. This is because in Tabei's Fig. 4, the number of pixels corresponding to the data records assigned to the pixels in each of the columns in the distribution graph are not uniform and pixels assigned to each of the columns are data dependent and therefore, each of the columns have the different number of pixels assigned to the data records. Although the data length or the width for each column in the distribution graph is plotted uniformly the same for each of the columns, the width in the number of pixels are different from each other, some columns have higher number of pixels than the other columns.

Tabei therefore teaches the claim limitation of "determining a width, in numbers of pixels, of each of the columns, the width of some columns being different than the width of other columns.

Tabei does not explicitly disclose the actual data width of some columns being different than the data width of other columns.

However, Davies discloses the actual data width of some columns being different than the data width of other columns (See Fig. 7 of Davies, the columns in "the Rate of Return 5 Year" represent at least one column being of a different width than at least one other column).

Davies also discloses the claim limitation of "determining a width, in numbers of pixels, of each of the columns, the width of some columns being different than the width of other columns. This is because in Fig. 6, the width, in the number of pixels, for some of the columns is different from the width of other columns because at least one column plots less data records than the other columns.

It would have been obvious to have combined the teaching of Davies and Tabei in view of the Davies's graphical user interface for resizing the ranges of data values associated with the columns for graphically displaying the data records in an interactive visualization to change the data width of the Tabei's distribution graph because Tabei teaches *determining* a width of each of the columns in column 5-6, i.e., the width of the x-axis, y-axis in the graph drawing region, wherein the scaled values are calculated based on the actual values of database items such as gross margin and sales. Tabei teaches designating a retrieval range on the distribution graph (See column 6, lines 40-45 and Figure 12 wherein the retrieval ranges are designated or selected). Therefore, *Tabei is capable of designating a variable width of the retrieved columns which are different than the width of some of the other columns*.

Although Tabei has fixed data width for the columns displayed in the Figures 3-5 and 11-12, a user is able to change the data width of the retrieved columns as indicated in Figure 12 and column 6, lines 40-45, wherein a user inputs the *designated retrieval range for the retrieval columns*. Therefore, *Tabei at least suggests the claim limitation of "determining a width of each*

of the columns, the width of some columns being different than the width of other columns" because a *variable* data width for each *retrieval column is either determined based on the calculation or is input based on the user's designation wherein a variable data width of the retrieved columns are different than the width of some of the other columns by user's designation*. Moreover, Tabei still discloses a variable pixel width for the columns in the distribution graphs displayed in Figs. 3-5 and 11-12.

One of the ordinary skill in the art would have been motivated to have resized the data ranges for each column in a graphical representation of data records because data sets can be rendered/displayed in a finer or courser granularity so that all the non-selected buckets above those selected on the axis are collapsed into a single bucket and all the non-selected buckets on the axis below those selected are collapsed into a single bucket and thereby the data range represented by the selected bucket or buckets is then expanded into a resized set of the remaining number of buckets which each have a data range representing different data range(See Davies Fig. 7 and the Abstract and column 6 and Mead Figs. 19-25).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 31 and 33-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

For example, the base claim 31 recites the two "applying a selectable color to all of the pixels in all of the columns according to an attribute of said records." Applying a color to all of the pixels in all of the columns would result in all pixels being of the same color. Whatever "a selectable color" may be, it is applied to **all of the pixels in all of the columns** – as opposed to, for example, a unique color applied to each pixel – resulting in, again, all the pixels being of the same "selectable" color. Moreover, the base claim 31 also recites, "wherein at least some pixels have a different color applied than other pixels", meaning a different color is applied to at least one pixel than other pixels, contradicting with the recitation of "applying a selectable color to all of the pixels in all of the columns" wherein all of the pixels in all of the columns have the unique selectable color. Therefore, the metes and bounds of the coverage of at least base claim 31 (or 36) cannot be ascertained.

To comply with the "written description" requirement of 35 U.S.C. 112, first paragraph, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filling date sought, he or she was in possession of the invention. The invention is, for purposes of the "written description" inquiry, whatever is now claimed. Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). For purposes of written description, one shows "possession" by descriptive means such as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). Such descriptive means cannot be found in the disclosure for the inventions of the base claim 31, 32 and 36.

Claims 33-35 depend upon the claim 31 and are rejected due to their dependency on the claim 31. The claims 37-39 depend upon the base claim 36 and are rejected due to their dependency on the claim 36.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 31 and 33-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For example, the base claim 31 recites the two "applying a selectable color to all of the pixels in all of the columns according to an attribute of said records." Applying a color to all of the pixels in all of the columns would result in all pixels being of the same color. Whatever "a selectable color" may be, it is applied to **all of the pixels in all of the columns** – as opposed to, for example, a unique color applied to each pixel – resulting in, again, all the pixels being of the same "selectable" color. Moreover, the base claim 31 also recites, "wherein at least some pixels have a different color applied than other pixels", meaning a different color is applied to at least one pixel than other pixels, contradicting with the recitation of "applying a selectable color to all of the pixels in all of the columns" wherein all of the pixels in all of the columns have the unique selectable color. Therefore, the metes and bounds of the coverage of at least base claim 31 (or 36) cannot be ascertained.

Claims 33-35 depend upon the claim 31 and are rejected due to their dependency on the claim 31. The claims 37-39 depend upon the base claim 36 and are rejected due to their dependency on the claim 36.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 31 and 33-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabei et al. U.S. Pat. No. 5,929,863 (hereinafter Tabei) in view of Davies et al. U.S. Patent No. 6,400,366 (hereinafter Davies) and Mead et al. U.S. Patent No. 5,801,688 (hereinafter Mead).

Re Claims 31, 36 and 40:

Tabei receiving said data comprising a plurality of records (column 3), each said record having a plurality of attributes (e.g., figure 3, 5, 11 and 12; column 8 and 10; a plurality of attributes for the first graph, the second graph in the same distribution graph);

Determining a set of attributes selected from said plurality of attributes, said set of attributes (e.g., the plot colors; see column 8 and 10) for placement of said plurality of records (data records for database or files; see column 3) in a graphically displayable array (figure 3, 5, 11 and 12), said graphically displayable array comprising a plurality of adjacent data points

(figure 3, 5, 11 and 12), each said data point representing one record of said plurality of records (e.g., figure 3, 5, 11 and 12; column 10, lines 4-67; column 11, lines 1-22);

Arranging said plurality of records to construct said graphically displayable array so that each of said adjacent data points is assigned a record (e.g., figure 3, 5, 11 and 12; column 10, lines 4-67; column 11, lines 1-22).

Tabei further discloses the claimed limitation of a computer system comprising a bus, a display device coupled to said bus; a computer-readable memory coupled to said bus; and a processor coupled to said bus, said processor for executing a method for arranging data (e.g., figures 1 and 6).

In other words, the data points plotted in Tabei's graph are data dependent, i.e., the distribution of the data points depends on the data items retrieved from the database as well as the retrieval conditions. Based on the data items retrieved from the database, Tabei's graph is capable of drawing every data point in the graph and that every data point corresponds to a record, especially in situation when Tabei plots a large set of data from the database representing a wide range of data values wherein every data point or every pixel is assigned a record. From page 9, lines 13-16 of the applicant's specification, a record is represented by a unique pixel in a display or a record is represented by a data point and each data point comprises a plurality of pixels. In Tabei, a record is represented by a unique pixel in a display and every pixel in the graph is plotted for records in a large set of records. Although Figures 3-5, and 11-12 of Tabei only show a limited number of data points in each graph, for a limited number of records, Tabei is capable of drawing every data point or every pixel in the graph for a large number of records representing a wide range of data items selected from the database. Therefore, Tabei teaches

assigning records to every pixel in the columns of the distribution graph. Finally, it is noted that the "pixel bar chart" is interpreted as the "distribution graph" of Tabei (See, for example, column 6, lines 45-55 of Tabei wherein Tabei teaches a pixel bar chart). Tabei teaches the claim limitation of "applying a selectable color to all of the pixels in all of the columns according to an attribute of said records". This is because **Tabei teaches in Figures 11-12 changing the plot color of the record data when a user input a narrowing retrieving condition (See column 10 for details). The plot color can be yellow or blue. The attribute of the records are thus designated by the narrowing conditions and the plot color such as yellow or blue is being applied to all of the pixels in all of the columns that correspond to the data records retrieved**.

Tabei teaches in Fig. 4 determining a width in the number of pixels of each of the columns, the width of some columns being different than the width of other columns. This is because in Tabei's Fig. 4, the number of pixels corresponding to the data records assigned to the pixels in each of the columns in the distribution graph are not uniform and pixels assigned to each of the columns are data dependent and therefore, each of the columns have the different number of pixels assigned to the data records. Although the data length or the width for each column in the distribution graph is plotted uniformly the same for each of the columns, the width in the number of pixels are different from each other, some columns have higher number of pixels than the other columns.

Tabei therefore teaches the claim limitation of "determining a width, in numbers of pixels, of each of the columns, the width of some columns being different than the width of other columns.

Tabei does not explicitly disclose the actual data width of some columns being different than the data width of other columns.

However, Davies discloses the actual data width of some columns being different than the data width of other columns (See Fig. 7 of Davies, the columns in "the Rate of Return 5 Year" represent at least one column being of a different width than at least one other column).

Davies also discloses the claim limitation of "determining a width, in numbers of pixels, of each of the columns, the width of some columns being different than the width of other columns. This is because in Fig. 6, the width, in the number of pixels, for some of the columns is different from the width of other columns because at least one column plots less data records than the other columns.

It would have been obvious to have combined the teaching of Davies and Tabei in view of the Davies's graphical user interface for resizing the ranges of data values associated with the columns for graphically displaying the data records in an interactive visualization to change the data width of the Tabei's distribution graph because Tabei teaches *determining* a width of each of the columns in column 5-6, i.e., the width of the x-axis, y-axis in the graph drawing region, wherein the scaled values are calculated based on the actual values of database items such as gross margin and sales. Tabei teaches designating a retrieval range on the distribution graph (See column 6, lines 40-45 and Figure 12 wherein the retrieval ranges are designated or selected). Therefore, *Tabei is capable of designating a variable width of the retrieved columns which are different than the width of some of the other columns*.

Although Tabei has fixed data width for the columns displayed in the Figures 3-5 and 11-12, a user is able to change the data width of the retrieved columns as indicated in Figure 12 and

column 6, lines 40-45, wherein a user inputs the *designated retrieval range for the retrieval columns*. Therefore, *Tabei at least suggests the claim limitation of "determining a width of each of the columns, the width of some columns being different than the width of other columns"* because a *variable* data width for each *retrieval column is either determined based on the calculation or is input based on the user's designation wherein a variable data width of the retrieved columns are different than the width of some of the other columns by user's designation*. Moreover, Tabei still discloses a variable pixel width for the columns in the distribution graphs displayed in Figs. 3-5 and 11-12.

One of the ordinary skill in the art would have been motivated to have resized the data ranges for each column in a graphical representation of data records because data sets can be rendered/displayed in a finer or courser granularity so that all the non-selected buckets above those selected on the axis are collapsed into a single bucket and all the non-selected buckets on the axis below those selected are collapsed into a single bucket and thereby the data range represented by the selected bucket or buckets is then expanded into a resized set of the remaining number of buckets which each have a data range representing different data range(See Davies Fig. 7 and the Abstract and column 6 and Mead Figs. 19-25).

Re Claims 33 and 37:

Tabei teaches in Figures 11-12 changing the plot color of the record data when a user input a narrowing retrieving condition (See column 10 for details). The plot color can be yellow or blue. The attribute of the records are thus designated by the narrowing conditions and the plot

color such as yellow or blue is being applied to all of the pixels in all of the columns that correspond to the data records retrieved.

Re Claim 34, 38 and 41:

However, Tabei further discloses the claimed limitation of sorting said records of each said group according to said first ordering attribute and sand second ordering attribute; and applying said visual indicator to each of said plurality of records according to said visual indicator attribute (e.g., figures 11 and 12; column 10, lines 4-67; column 11, lines 1-22).

Re Claims 35, 39 and 42:

However, Tabei further discloses the claimed limitation of that said step c) comprises sorting said plurality of records by a first dividing attribute, said first dividing attribute corresponding to said first axis, and partitioning said plurality of records into groups according to said first dividing attribute (e.g., figures 11 and 12; column 10, lines 4-67; column 11, lines 1-22).

Re Claim 43:

Tabei further discloses the claimed limitation of sorting said records of each of said groups according to a second dividing attribute, said second dividing attribute corresponding to said second axis, and portioning said records of each of said groups into sub-groups according to said second dividing attribute; sorting said records of each said sub-group according to said first ordering attribute and said second ordering attribute; and applying said visual indicator to each of said plurality of records according to said visual indicator attribute (e.g., figures 11 and 12;

column 10, lines 4-67; column 11, lines 1-22). Tabei further discloses the claimed limitation of said visual indicator being a color (e.g., figure 12). Tabei further discloses the claimed limitation of said graphically displayable array being a pixel bar chart (e.g., the distribution chart of figure 12).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jcw

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600